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## CASE STUDY - Panama small pelagics fishery

The Panama small pelagics fishery made history as the first accepted applicant for the MarinTrust (formerly known as IFFO RS) Improver Programme (IP) scheme in 2015. Fishery managers are now working towards a series of time-bound improvement milestones, to enable their processing plant to transition towards full MarinTrust certification.

MarinTrust IP enables companies unable to meet the full requirements of MarinTrust certification, to come under the umbrella, whilst working towards the greater prize. Concerns they may need to address include processes or protocols in the processing plant, and issues related to procurement of raw materials and their associated fisheries.

Since the 1960s, the Panama small pelagics fishery has formed the basis of a reduction industry producing fishmeal and some fish oil in Panama. The fishery mainly targets Pacific anchovy (*Cetengraulis mysticetus*) and Pacific thread herring (*Opisthonema* Sp.). Pacific bumper (*Chloroscombrus orqueta*) is also caught, but makes up a very minor part of the catch.

Fishmeal products were primarily destined for export to the poultry industry in the US, with a small fraction retained for national consumption and export further afield. Fish oil was historically shipped to Rotterdam in the Netherlands, as an ingredient for the margarine market.

Today, Europe buys the majority of the fish oil for use in the salmon feed industry, while China, North America and countries neighbouring Panama are the main market for fishmeal, which is used in both swine and aquaculture diets.

In 2018, 85,900 metric tons of raw fish produced 7,800 MT of fish oil and 19,000 MT of fishmeal.

Most of the fishmeal and fish oil is now commercialized by Animalfeeds Inc, which is a member of The Marine Ingredients Organisation, IFFO. Managing Director Brian Murtagh, explained that the group had been given the confidence to apply for the MarinTrust IP, as a result of progress made with a Fishery Improvement Project (FIP).

The FIP was started in 2011 as an initiative of CeDePesca, a non-profit organization founded in 1997, to help Latin American fisheries become sustainable, along with Promarina SA, the most important local producer. It is now run in conjunction with Procesadora Bayano SA (Probasa).

According to Libby Woodhatch, executive chair of MarinTrust, the commitment made by the fishermen to improve the fishery, is an excellent example of how an industry-led multi-stakeholder effort can promote positive change.

*“Before entering into the FIP, the Panama small pelagics fishery was data poor, with inadequate records of effort or landings, and nothing known about its impacts on the ecosystem. No-one could say whether or not it was sustainable, but the market had started demanding third party proof of sustainability, so something needed to be done,”* said Ernesto Godelman executive director of CeDePesca.

The first task was to undertake a gap analysis against the Marine Stewardship Council’s (MSC) international standard for sustainable fishing, which highlighted weak management in the fishery and the lack of information on status and environmental impacts. This set the groundwork for the gap analysis against the MarinTrust fishery assessment which began the journey towards MarinTrust IP recognition.

*“The FIP helped to formalise our data collection by putting proper systems and a management framework in place. We had been instinctively working sustainably for over 50 years, ensuring that the beginning of the pelagic season did not overlap with the shrimp season, to avoid conflict between the two, and that anchovy would not be caught when they were spawning. However, nothing had been formalised”* said Murtagh.

Godelman explained that a 1960 law allowed each processing plant to run 16 vessels, but by the time the FIP was set up, just two companies were operating the fishery, with 16 boats between them and a common processing plant. This was a result of a voluntary reduction in fleet capacity, to protect the long-term future of the fisheries.

*“The next step was to digitalise 17 years of catch and effort information for each species, from dusty paper files stored somewhere in Promarina. We then collaborated with the Panamanian Authority for Aquatic Resources (ARAP) on the implementation of a research and monitoring plan, that would assess the stock to ascertain if the intuitive management system was indeed producing a sustainable fishery. This work has included a hydroacoustic survey each year since 2017”* he said.

Godelman explained that the abundance of fish stocks in a particular area can vary depending on changes in the local environment, and that small pelagic fish are highly sensitive to that variability. Just one degree of difference in water temperature can affect the behaviour of the fish, as can strong winds or rain.

The FIP also organized and funded an onboard observer program, which collects information on size and maturity of the target species, along with ecosystem impacts such as bycatch of endangered species. This work revealed that the by-catch is very low, at under 5% of total catch, and the general impacts on different ecosystem components are minimal. As a result of the findings of the observers’ program, fishermen are regularly trained to release vulnerable species alive.

*“30 years ago, a turtle was a trophy, and sharks were seen as a nuisance, but now NGOs teach the crew how to release sharks caught in nets and lines, and to protect turtles, which is good progress”* said Murtagh.

*“We are still looking at indirect impacts in the trophic chain and there are no regular or accurate studies on the seabird population feeding on small pelagics for example, so we are hoping that other NGOs or government agencies might get involved with us to do this”* said Godelman.



Two years ago, a new fishmeal and fish oil company set up in Panama operating 4 boats, facilitated by the introduction of a new law to regulate the total number of vessels at 20, along with technical characteristics to limit effort. According to Murtagh, advances in vessel design and technology mean that 20 modern vessels have the same fishing capacity as more than 30 older boats, but they are more efficient and have a lower environmental footprint.

A new management plan was also put in place, with secondary measures including the setting of Total Allowable Catches (TACs) further limiting fishing effort.

*“A lot of effort has gone into maintaining a constructive dialogue between the government, the industry and CeDePesca, and it is important to highlight the active collaboration of skippers and crew at workshops and at sea, in making progress with the fishery”* said Godelman.

*“In 2019, an acknowledged Chilean scientist, Dr. Cristian Canales, used all the information collected by the FIP to conduct the first formal stock assessment ever in Panama for anchovy and herring and the outcomes were excellent, confirming that intuitive management had been successful and both stocks are healthy”* informed Godelman.

For Murtagh, who coordinates the MarinTrust Improver Programme for the fishery, the changes have all been positive, including increased demand for fishmeal and fish oil from existing markets, and access to new markets seeking a third party assessed product for aquaculture.

He explained that historically, the factories smelt highly of fish and polluted the environment by dumping wastewater, but this is now a thing of the past.

*“The industry is now far more sophisticated, and more conscious of minimising its impacts, whether at sea or in the factories. We all feel proud of what has been achieved, in terms of bringing a responsible, quality product to the market”* he said.

The decision to join MarinTrust IP had been an obvious one for Murtagh.

*“The Standard sets out clear milestones for improvement that are achievable, it is specifically for the fishmeal sector, the unit of certification is the fishmeal plant, and the government understood what we were trying to do and agreed to come on the road with us”* he said.

*“All the participants came together and cooperated to understand each other’s views, then worked to implement measures in the right direction. We are happy that the government approved the new rules and the management plan for the fishery that clarifies definitions of fishing vessel activity and regulates fishing methods. On our side, we have invested heavily in staff training and technical equipment. Together, these efforts have stimulated a real change from the fishermen, and helped the environment and the local communities”* said Murtagh.

Although income from fisheries is marginal compared to fees derived from the Canal, fisheries products are Panama’s main export behind financial services, for which the country is noted. They are also an important provider of jobs and food security.

*“We are pleased that because of the good framework established by MarinTrust, our approved marine ingredients are sustainably, socially and environmentally compliant, and can be safely used by our customers around the world,”* Murtagh concluded.



These efforts are increasingly recognised within the value chain and have implications in terms of how the MarinTrust programme is recognised by other standards, such as BAP (Best Aquaculture Practices):

*“It’s impressive to see how MarinTrust is expanding its positive impact through fishery improvement projects as well as certification. By these means, MarinTrust is managing to transform the global landscape for responsibly-sourced marine ingredients. Acting in concert, the aquaculture industry seeks robust assurances for feed ingredients - our own Best Aquaculture Practices program is steadily placing greater reliance on programs such as MarinTrust – creating synergies for sustainable seafood supply chains”* said Dan Lee, BAP Standards Coordinator.